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ABSTRACT

Equal pay for equal work by persons of equal qualifications is the concept behind laws against race and sex discrimination in salaries in the United States. However, determining the existence and extent of discrimination is not a simple matter. A four-step procedure is recommended that attempts to uncover the existence of discrimination and begins to rectify the problem wherever it is found. Major issues associated with the tools and structures employed during each step of the salary equity process are discussed. The model employed by the university of Illinois at Urbana-Champaign is described. It suggests a four-phase process utilizing different types of judgment at each stage and making different sets of demands upon the institution during each of the four phases. The phases include: policy; data collection and analysis; salary adjustment determination; and follow-up and monitoring. (Author/LBH)

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Equal Pay for Equal Qualifications?

A Model for Determining Race or Sex Discrimination in Salaries

by

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Abstract

Equal pay for equal work by persons of equal qualifications is the concept behind laws against race and sex discrimination in salaries in the United States. Determining the existence and extent of discrimination is not a simple matter however. The purpose of this paper is to recommend a four-step procedure which attempts to uncover the existence of discrimination and begins to rectify the problem wherever it is found. It also discusses the major issues associated with the tools and structures employed during each step of the salary equity process.

Equal Pay for Equal Qualifications?

A Model for Determining Race or Sex Discrimination in Salaries

BACKGROUND

Discrimination in salary allocation procedures due to race, sex, or other variables unrelated to merit has been getting increased attention recently in higher education. The Equal Pay Act of 1963, the Civil Rights Act of 1964, and Title IX of the Education Amendments Act of 1972 have made salary discrimination due to race or sex illegal. However, one of the major initial problems confronted by an institution of higher education is to identify the existence and extent of discrimination, since criteria used in determining salaries are seldom made explicit, particularly on an institution-wide scale. Even if such criteria have been made explicit, there is almost always disagreement as to how well certain individuals have met these criteria.

One approach to solving the salary inequity problem is to ask those responsible for establishing salary policies to review the status of individuals who might be victims of sex or racial discrimination. This relatively subjective mode of operation risks the possibility of requiring people to incriminate themselves, since past discriminatory decisions, if they occurred, were frequently made by some of the same people being asked to review current salaries. Despite the fact that important, non-quantifiable factors can be included in such review processes, critics can claim with some justification that the subjective approach will only perpetuate past inequities.

An alternative tactic would include the use of a more objective approach, i.e., a quantifiable methodology to determine the existence and

extent of salary discrimination. One method would be to match a Caucasian male with a woman or minority person with similar background and ability, then determine if their salaries are comparable. This procedure, known as counterparting, has been recommended by some (Nevill, 1975), but may be no better than a purely subjective approach. Obviously counterparting presents the initial problem of matching; even in very large departments or institutions two individuals are seldom very similar in ability and experience. A related problem is that possible victims of discrimination are frequently clustered in departments, such as home economics in the case of women, where there are few, if any, possible counterparts, and virtually none that are similar as to merit. Because of the problems surrounding the matching process, and the inevitable faculty animosity generated by it, counterparting cannot be recommended as an objective procedure in ferreting out salary inequities.

There is a second general approach which goes beyond the use of counterparting, and that is the use of multiple regression techniques to predict salaries from merit factors. Faculty must still be matched to a certain extent, such as by department, but statistical techniques are used to adjust for differences in merit factors to predict salaries. Faculty with different merit factors will have different predicted salaries using multiple regression, so exact matches are unnecessary, yet only explicit, quantifiable variables can be included in the resulting prediction equation. Although fraught with its own set of difficulties, multiple regression appears to be the best objective technique currently available in determining the existence and extent of discrimination.

Recognition of the objective nature of multiple regression as a technique for examining salary inequities has been growing. Scott (1977), in a widely circulated work, gives the impression that the salary equity process is a relatively simple matter of employing a few variables, such as time in service and highest degree, and objectively determining salaries. The U.S. Office of Civil Rights seems to hold a similar opinion as expressed in its agreement with the University of Wisconsin, dated December 16, 1977 (Change, 1978).

> The University will perform an analysis to determine potential salary inequities. In one part of the analysis, professional job-related criteria will be identified as basic variables for use in the analysis. Basic variables shall be quantified and include: department, rank, time in rank, and measure(s) of length of professional service. Other valid quantifiable variables may be included, provided, however, that prior to inclusion the university shall consult with OCR regarding inclusion of those variables. Using these variables, the university will conduct valid statistical or other empirically vertifiable and auditable studies, such as a multiple regression analysis of faculty and academic staff salaries to identify wage discrepancies....In no case will assertions, verbal or written, unsupported by specific comparative analysis be considered as justification for wage discrepancies.

Although statements made by federal officials since the Wisconsin agreement suggest a moderation of the straight formula approach, this agreement does show an inclination towards the use of quantifiable criteria only in the salary equity process.

Multiple regression techniques are not without their own weaknesses. The problems concerning the use of multiple regression involve the nature

of the statistical technique itself. For example, multiple regression can be used to predict only a portion of a person's salary, frequently less than 50%. In addition, the standard error in predicting a single person's salary is usually quite large. As a result of the latter, using traditional cutoff points such as two standard deviations yield few, if any, faculty members as being victims of discrimination. Much lower confidence levels yield more victims of discrimination, but these are less acceptable statistically. A distinction must be made between policy significance and statistical significance. The former is most useful in this type of study.

Another criticism involves the concept of predicting salaries from merit criteria, while not also predicting merit criteria from salaries. Birnbaum (1977) has pointed out that one might appear to be a victim of discrimination when salaries are predicted from merit factors, while no discrimination is apparent when predicting from salaries back to merit factors.

These weaknesses inherent in the use of multiple regression do not necessarily preclude its utilization in salary equity decisions, but they do point to the need for something beyond a strict formula approach.

THE UIUC MODEL

A careful review of the literature on multiple regression and salary equity, as well as discussions with other institutional representatives

and our own experiences at the University of Illinois at Urbana-Champaign, lead us to the conclusion that neither a purely subjective approach nor one using multiple regression in a formula manner is the most desirable way of determining salary inequities. For this reason a four-step salary equity review process utilizing both objective (i.e., multiple regression) techniques and additional committee evaluations is recommended. Certain aspects of this model have been discussed elsewhere (Braskamp, Langston and Muffo, 1978; Branskamp, Muffo, and Langston, in press).

The UIUC model suggests a four-phase process utilizing different types of judgment at each stage and making different sets of demands upon the institution during each of the four phases. The phases are summarized as follows:

(1). Policy

(2). Data collection and analysis

(3). Salary adjustment determination

(4). Follow-up and monitoring

PHASE I

The policy phase is possibly the most important and least discussed of the four. It is recommended that a campus-wide committee of respected faculty and administrators decide several important points prior to the gathering of any data. The most obvious question consists of who should be included in the analyses; i.e., women, various minorities, or both. One suggestion on this point is to gather data assuming possible discrimination against all women and minorities, then test for group differences using

multiple regression. If no group differences are found, assume differences in salary are due to individual rather than group differences, just as they are for majority males. This procedure allows the widest possible coverage of groups, yet does not require groups showing no discriminatory pattern to be included in the final analysis.

Another policy decision concerns cut-off points. That is, how far below the predicted salary must a faculty member be paid for him or her to be included for further review? These cut-off points can be determined after the regression analysis has yielded predicted salaries, but the decision will probably be more objective and less controversial if made beforehand. It should also be noted that such cut-offs may vary by rank, if based on dollar amounts, or may utilize a percentage limit.

A third, and complex, policy area is that of which variables to include in the multiple regression analysis. Most agree that variables such as highest degree and length of service should be included, but beyond these two compromise might be necessary. Depending on the mission of the institution, other variables considered for use might include rank, appointment status (9 or 11 month), years of professional experience, various publications, grant dollars, teaching awards and evaluations, peer evaluations, some measure of the "market" in that discipline (e.g., veterinarians vs. humanists) and so on. The problem is that some of these variables are not acceptable to all individuals and institutions as predictors of salary. In addition, a case can be made that certain variables such as rank are themselves affected by discrimination, so using such variables to predict salaries is both redundant and discriminatory itself. The more variables

that are excluded prior to data gathering, however, the lower the correlation will be and, consequently, the lower the predictability of the resulting prediction equation. The same will be true if too many predictors are included. Obviously trade-offs are necessary.

One suggested approach is to include as many variables as might be acceptable, then determine via step-wise multiple regression which ones contribute significantly to the prediction equation. Only those adding significantly to the prediction equation need to be included in analyzing salaries. If a seemingly important variable such as teaching awards is not included in the final prediction equation, however, faculty acceptance might be hindered, even if that variable were not statistically significant. The point is important, for by the nature of multiple regression, the predicted salaries of different people will fall beyond the cut-off points, depending on what variables are included in the prediction equation.

PHASE II

The data collection and analysis stage is the most mechanical of the four phases once policies have been established. A random sample of majority males are matched by department with women and minorities, then included in the data gathering process. Data on all included faculty are collected from existing sources and by use of questionnaires. The data for the majority males are used to build a prediction equation that fits them. The data for the matched women and/or minorities are then substituted in the majority male prediction equation and salaries are predicted for each faculty member. Those whose salaries fall below their predicted

salaries by amounts larger than the cut-offs are then "flagged" for further review. Those whose actual salaries are within the cut-off range are then eliminated from immediate further consideration.

Some statistical techniques can be used during this phase to increase predictability. One means used to increase predictability is to build separate regression equations, based on data gathered from majority males, for individual academic units such as departments, schools, or colleges within a larger university. The advantage is that such units often house a more homogenous group of people than the institution as a whole; educational background, career patterns, teaching methods, publication rates, etc. frequently show more similarities within than across such units. The greatest drawback to this approach is that frequently the number of faculty is too small to use multiple regression with any degree of confidence. An additional criticism is that smaller units may represent what have traditionally been thought of as female or minority departments; such analyses would therefore help to perpetuate the old stereotypes and resulting inequitable salary structures.

Besides building separate regression equations for specific subgroups, one can attempt to improve prediction by converting some of the variables to a non-linear form. Publications, for example, frequently have a declining value, with the first few being most important, so the log of journal articles might yield a higher correlation than the number itself. Trial and error using such non-linear variables may yield a prediction equation with both linear and non-linear variables, depending on which combination yields the most predictability, all within the confines of

policies established in PHASE I.

PHASE III

During the third phase of the salary equity review process, those individuals "flagged" for further review are given the option of review by departmental, college, or university committees for possible salary adjustments. Some people, for personal reasons, will refuse the review. Others not "flagged" may feel slighted, so all members of the group being investigated, i.e., women and/or minorities, should have the option for further review also. Our experience has been that only a few of the people not "flagged" opt for further review, for whatever reason. We also suspect that some refusing reviews have been promised adjustments if they don't go through the committee structure, thus keeping the matter within the department. Realistically, some may also be influenced to keep silent by more negative factors.

The unit review committees in PHASE III must have some direction as to guidelines to follow, including sources and amounts of funds available for salary adjustments. They should also be well informed as to the procedures and variables used for "flagging." They are then free to include other, non-quantifiable evidence submitted by those being reviewed in deciding what adjustments should be made. After careful review and documentation of reasons for their actions, the committee members then forward their final recommendations to the proper administrator for action.

PHASE IV

The final phase of the salary equity review process is the follow-up and

monitoring phase. This stage is where the actions of the various unit committees are reviewed for possible discriminatory practices. In addition, salary adjustments may be given by committees without support by the usual decision-makers resulting, for instance, in an equity increase but no normal departmental increase in the same year. Using the equity increase to replace a normal increment would frequently leave the person reviewed further behind in salary than prior to the review, clearly an unacceptable result. In short, then, PHASE IV suggests a systematic monitoring of salaries in the years following the initial salary equity review. It might even be deemed necessary to repeat the whole process in a year or two following the initial study. This monitoring process, when used together with the more traditional affirmative action programs of hiring, retention, and promotion can also serve as a constant reminder of the desired goals.

EPILOGUE

The salary equity process described above is recommended for cases involving possible sex or race discrimination. The review of individual majority males is dismissed in that no group discrimination is evident with them. This procedure leaves open the question of whether only groups or all individuals should be reviewed; that is, whether it is "fair" and legal to look only at group and not individual differences in salary policies.

The term "reverse discrimination" may be used to criticize the approach recommended here, since majority males are excluded from immediate further review. As far as multiple regression techniques are concerned, the issue

involves the distinction between group and individual discrimination. Individual majority males may well suffer from inequitable treatment in salary, yet the group as a whole will show no results of discrimination. Among minority men and all women, if group discrimination is found, individual inequities will tend to be lumped together with group inequities, as it is virtually impossible to separate individual and group inequities from each other. A moderate approach would be to note that the most glaring inequities are group ones, to which are also added individual inequities, and that a long-term solution would be to look at all individual inequities after the more pressing group inequities have been attacked.

The legal aspects involved are quite complicated and certainly beyond the scope of this paper. One should note, however, that in University of Nebraska vs. Dawes (1975) there appears to be a legal basis for saying that any strictly formula approach must be applied to all individuals. It might be expected that more legal clarification of this issue will be forthcoming in the near future.

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